

THREE NEW SPECIES OF *LORELUS* FROM PUERTO RICO (COLEOPTERA: TENEBRIONIDAE)

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Abstract.—Three new species of *Lorelus* are described from Puerto Rico: *L. wolcotti* NEW SPECIES, *L. bicolor* NEW SPECIES, and *L. glabratus* NEW SPECIES.

Key Words.—Insecta, Coleoptera, Tenebrionidae, *Lorelus*, Puerto Rico

Lorelus Sharp is a small genus of lagriine Tenebrionidae distributed in the Neotropical region (especially the Caribbean area) and in the Papuan-Pacific region, including Australia and New Zealand (Kaszab 1982). Doyen et al. (1989) placed *Lorelus* and related genera from the Australian region in the Lupropini, and that classification is followed here. *Lorelus* and its relatives probably form a monophyletic lineage, which might be recognized as a subtribe, Lorelina. Biological information for *Lorelus* species is scanty. Several of those described by Kaszab (1982) were beaten from dead branches. I collected *L. crassicornis* Broun from the moist, rotten stems of tree ferns on the North Island of New Zealand, and *L. curticolis* Champion from the same situation in Veracruz, Mexico. The three species described herein were taken from the pithy, moist interior of rachi of the palm, *Prestoea montana* (R. Graham) Nichols. This plant occurs on many other islands in the Antilles, suggesting that the beetles or related species might also be more widespread. In this regard, it is significant that one of the included species here, *L. wolcotti* NEW SPECIES, is indistinguishable from a Dominican amber fossil (J. T. Doyen & G. Poinar, in press); moreover *L. bicolor* NEW SPECIES is rather similar to another Dominican fossil.

Neotropical *Lorelus* are practically unstudied excepting the cursory treatments of Champion (1896, 1913). In the former paper, he described the genus *Lorelopsis* for *L. pilosus* Champion from the Island of St. Vincent. The more strongly lamellate penultimate tarsomere, projecting beneath the ultimate, supposedly differentiated *Lorelopsis* from *Lorelus*. My observations suggest that this character is variable and that *Lorelopsis* is probably not distinct from *Lorelus*. Accordingly, both species described here are placed in the latter genus, even though Wolcott (1936) mentioned one as a member of *Lorelopsis*. This paper makes available the names of the extant species in order to facilitate the comparative study of the fossils.

LORELUS WOLCOTTI, NEW SPECIES

Lorelopsis sp., Wolcott, 1936: 236.

Types.—Holotype male and 18 paratypes (sex not determined), from PUERTO RICO. Sierra Luquillo, Caribbean National Forest, Road 191, 550 m, 22 Dec 1986, J. Doyen and J. Santiago-Blay; 8 paratypes: Sierra Luquillo, Caribbean National Forest, Road 191, 12 km S of Palmer, 750 m, 22 Dec 1986, J. Doyen

and J. Santiago-Blay; 4 paratypes: Cordillera Central, SW of Lago Matrullas, Rd 564, 900 m, 23 Dec 1986, J. Doyen and J. Santiago-Blay. Holotype deposited in California Academy of Sciences, San Francisco.

Description.—Elongate, red-brown to piceous beetles with subparallel sides and densely setose dorsum. Head with uniform punctures about as large as eye facets, separated by less than puncture diameter, each bearing slender, yellow seta about as long as fourth antennal segment. Epistoma darkened and slightly depressed laterally anterad of antennal sockets, briefly produced as small rounded elevations just above sockets; eyes almost round, front margin very slightly flattened. Antenna with second segment $0.75 \times$ length of third, fourth through eighth slightly more than $0.5 \times$ length of third, about as long as wide; ninth and tenth about $2.0 \times$ as wide and long as eighth; eleventh about $1.5 \times$ length of tenth, apically rounded, slightly asymmetrical. Pronotum as wide as long, broadest two-thirds toward anterior edge; disk densely, almost reticulately punctate, punctures slightly larger than on head and slightly larger laterally; anterior border almost straight, faintly and narrowly margined; anterior angles rounded, slightly obtuse; lateral borders gently arcuate anteriorly, becoming almost straight in posterior one-third; carina complete, finely crenulate, slightly wider posteriorly; hind angles nearly 90° or sometimes narrowly and briefly exserted, acute; posterior border arcuate, narrowly margined; foveae lacking; discal setae as on head, declined slightly anterad. Elytra at base about $1.5 \times$ as wide as pronotal base; widest slightly behind middle; confusedly, evenly punctate, punctures slightly larger than on pronotum; setae declined slightly posterad; epipleuron narrowing from humerus to first abdominal sternite, then with subparallel margins almost to elytral apex. Venter laterally more coarsely, sparsely punctate than dorsum; metasternum impunctate medially; setae much more strongly declined; hypomeron with deep, broad transverse groove just before posterior border; posternal process horizontal, expanded laterally behind coxae, apex broadly rounded; intercoxal process deltoid, acute. Tarsi with long, fine, dense, silky pubescence ventrally; penultimate segment bilobed, extending beneath ultimate segment about $0.3 \times$ its length. Greatest pronotal width, 0.6–0.7 mm; median pronotal length, 0.6–0.7 mm; greatest elytral width, 0.8–1.1 mm; median elytral length, 1.7–2.3 mm.

Diagnosis.—*Lorelus wolcotti* NEW SPECIES is most similar to *L. trapeziderus* Champion, from Guatemala. The latter is larger (3.75 to 4.0 mm versus 2.7 to 3.3 mm for *L. wolcotti*) and has the second and third antennal segments subequal (third much longer than second in *L. wolcotti*). In *L. wolcotti*, the anterior margin of the pronotum is slightly convex when viewed normally; in *L. trapeziderus* the margin is slightly concave.

Discussion.—All the specimens of *L. wolcotti* were taken from the rotten pith of the rachi of dead fronds of *Prestoea montana* (R. Graham) Nichols (palma de sierra) (Palmae), where they are associated with *Lorelus bicolor* NEW SPECIES and *L. glabratus* NEW SPECIES, described below. Other associates included Curculionidae, Staphylinidae and *Monoedus* (Colydiidae).

Material Examined.—See types.

LORELUS BICOLOR, NEW SPECIES

Types.—Holotype female and 84 paratypes (sex undetermined), from PUERTO RICO. Sierra Luquillo, Caribbean National Forest, Road 191, 7 km S of Palmer, 750 m, 22 Dec 1986, J. Doyen and J. Santiago-Blay. Holotype deposited in California Academy of Sciences, San Francisco.

Description.—Very slender, elongate, parallel sided beetles with red-brown body and head, much paler, yellow brown elytra and legs; integument covered with short, declined pubescence, especially dorsally. Vertex with punctures about $2.0 \times$ diameter of eye facets, separated by one puncture diameter or less; punctures becoming smaller and sparser anteriorly, especially on epistoma; each puncture with pale, inclined seta about as long as fourth antennal segment; epistomal sutures darkened, faintly visible in lateral quarters; genae briefly produced as small, rounded swellings just above antennal sockets, then transversely, shallowly depressed just before epistoma; lateral epistomal margins weakly concave.

Eyes prominent, rounded, without trace of anterior emargination; bordered posteriorly by several erect, bristling setae. Third segment about 1.12 (one and one-eighth) \times length of second and stouter; segments 4 through 8 slightly more than 0.5 \times length of third, submoniliform; 9 and 10 about 1.5 \times as long and wide; 11 globular, slightly longer than broad. Pronotal width and length subequal, disk widest just behind anterior angles, slightly narrower across posterior angles, with punctures about 3.0 \times eye facets in diameter, separated by one puncture diameter or less; anterior border almost straight, not margined; anterior angles exerted laterally, tuberculiform; lateral borders very slightly arcuate and converging to hind angles; carina complete, very narrow, finely crenulate; hind angles slightly obtuse, sometimes very weakly exerted; posterior border evenly arcuate, not margined; discal setae as on head, declined slightly anterad or mesad. Elytra at base about 1.17 (one and one-sixth) \times wide as pronotal base, sides almost parallel to third abdominal segment; confusedly punctate, punctures 3.0–4.0 \times eye facet diameter, finest near suture; setae declined posterad or posterolaterad; epipleuron narrowing to hind coxa, then with subparallel margins almost to elytral apex. Venter more sparsely, finely punctate than dorsum, epimeron almost impunctate; hypomeron posteriorly with broad, transverse groove almost to hind angle; prosternal process horizontal, gradually expanded behind coxae, subtruncate posteriorly. Tarsi sparsely set with long, fine setae ventrally; penultimate segment entire, scarcely produced beneath ultimate. Greatest pronotal width, 0.4–0.5 mm; median pronotal length, 0.4–0.5 mm; greatest elytral width, 0.5–0.7 mm; median elytral length, 1.0–1.3 mm.

Diagnosis.—*Lorelus bicolor* NEW SPECIES is similar to *L. exilis* Champion and *L. glabratus* NEW SPECIES, described below. It differs from *L. exilis* in the exerted, tuberculiform anterior pronotal angles (rounded in *L. exilis*), in the weakly arcuate pronotal base (much more strongly arcuate in *L. exilis*) and in the minutely reticulate, submatte interpunctal cuticle on the head and pronotum (cuticle polished, shining in *L. exilis*). *Lorelus bicolor* differs from *L. glabrata* in its pubescent dorsum (subglabrous in *L. glabrata*). Additional differences are described under the latter species.

Discussion.—All specimens were collected from the rotten rachi of *Prestoea montana*.

Material Examined.—See types.

LORELUS GLABRATUS, NEW SPECIES

Types.—Holotype female, from: PUERTO RICO. Cordillera Central, SW of Lago Matrullas (Road 564), 914 m (3000 ft), 23 Dec 1986, J. Doyen and J. Santiago-Blay. Thirteen paratypes, from: PUERTO RICO. Sierra Luquillo, Caribbean National Forest, 20 km (12 mi) S of Palmer (Road 191), 761 m (2500 ft), 22 Dec 1986, J. Doyen and J. Santiago-Blay. Holotype deposited in California Academy of Sciences, San Francisco.

Description.—Very slender, elongate, parallel sided beetles with red-brown body and head, pale yellow-brown elytra and legs; dorsum subglabrous. Vertex with punctures about 2.0 \times diameter of eye facets, separated by about one to two puncture diameters; punctures becoming sparser anteriorly behind epistomal suture; interpunctal cuticle polished; genae swollen, polished above antennal sockets, slightly depressed just behind epistomal suture; epistomal suture entire, fine, becoming expanded and darkened at epistomal margins; epistoma very sparsely punctate in anterior two-thirds, with shagreened transverse crescentic band just before epistomal suture. Eyes nearly round, without trace of emargination; diameter subequal to length of second antennal segment; postgenae prominent behind eyes, then abruptly constricted. Antenna as in *L. bicolor*. Pronotal length and width subequal, disk widest just behind anterior angles, about 0.9 \times as wide across posterior angles, with punctures about 3.0 \times eye facets in diameter, separated by about one to three puncture diameters; interpunctal spaces polished, obscurely reticulate; anterior border slightly, convexly arcuate, faintly margined; anterior angles rounded; lateral borders slightly arcuate, converging evenly to hind angles; lateral carina complete, closely subtended by about 10 evenly spaced monosetiferous papillae; posterior angles sharp, slightly obtuse; posterior border very weakly bisinuate, unmargined. Elytra at base about 1.17 (one and one-sixth) \times

as broad as pronotal base, sides almost parallel to third abdominal segment; confusedly punctate, punctures about $4.0\text{--}5.0\times$ eye facet diameter, separated by about $0.5\times$ puncture diameter; interpunctal spaces shining, polished; disk with very sparse, short, fine, erect setae laterally and on declivity, otherwise almost glabrous; epipleuron narrowing slightly to hind coxa, then subparallel almost to elytral apex. Hypomeron finely reticulate-granulate, with few obscure, fine punctures; prosternum very sparsely punctate; prosternal process horizontal, gradually expanded behind coxae, subtruncate posteriorly; pterothoracic venter with punctures about $2.0\times$ eye facets in diameter, separated by about one to three puncture diameters; interpunctal spaces with finely reticulate microsculpture; abdominal sternites with punctures slightly denser and bearing short, fine, declined setae, otherwise similar to metasternum. Tarsi with ventral vestiture of long, fine setae; penultimate segment scarcely produced beneath ultimate. Greatest pronotal width, $0.40\text{--}0.42$ mm; median pronotal length, $0.35\text{--}0.40$ mm; greatest elytral width, $0.47\text{--}0.51$ mm; elytral length, $1.2\text{--}1.4$ mm.

Diagnosis.—*Lorelus glabratus* NEW SPECIES is most similar to *L. exilis* Champion. The most obvious difference is in the dorsal pubescence, which is almost absent in *L. glabratus*, but dense and obvious in *L. exilis*. Other differences are: (1) In *L. glabratus*, the hypomeron is finely reticulate-granulate, with only a few obscure punctures; in *L. exilis* the hypomeron is punctate. (2) In *L. glabratus*, the posterior pronotal margin is very weakly bisinuate; in *L. exilis* the margin is more strongly curved, and is arcuate rather than bisinuate. (3) In *L. glabratus*, the lateral pronotal margin is subtended by 8 to 11 setiferous tubercles; in *L. exilis* there are 13 to 17 such tubercles, and the margin appears crenulate. Characters 1 and 3 above also separate *L. glabratus* from *L. bicolor* NEW SPECIES, which is of similar size and color. In addition, in *L. bicolor*, the anterior pronotal angles are in the form of an exerted tubercle and the dorsal microsculpture is finely reticulate-granulate, producing a matte or weakly shining luster. In *L. glabratus*, the anterior pronotal angles are rounded and the dorsal microsculpture is largely obliterated, producing a polished, shining appearance.

Discussion.—All specimens were collected from the rotten rachi of *Prestoea montana*.

Material Examined.—See types.

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